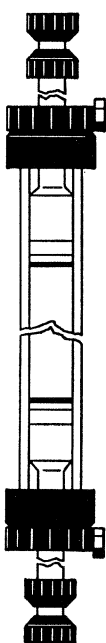


NEW from PHARMACIA

# SEPHADEX® LH-20 extends gel filtration to organic solvents



Pharmacia Fine Chemicals now introduces the *first* lipophilic derivative—Sephadex LH-20—to extend the use of Sephadex to organic solvents. Since it swells in water, polar organic solvents and in mixtures of these solvents, Sephadex LH-20 makes it possible to apply the conventional Sephadex gel filtration technique in fields such as lipid chemistry, polymer chemistry and other areas of organic chemistry and biochemistry where organic solvents must be used.

## Sephadex Solvent-Resistant Columns

The only laboratory columns especially designed for use in chromatographic separations with organic solvent systems. The columns are equipped with two specially designed adjustable flow adaptors for use with various bed heights and for ease of sample application. The columns have the advantage of allowing either descending, upward flow or recycling chromatography as one of their many features.

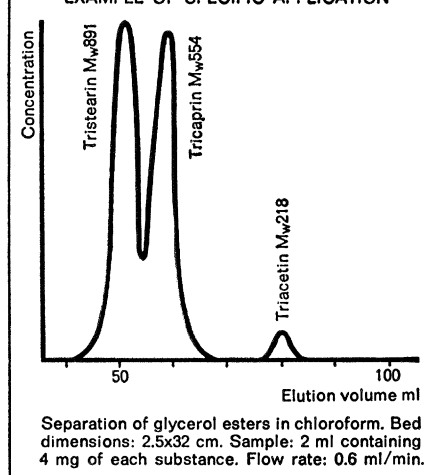
## RANGE OF APPLICATION

Solvent	Approx. solvent regain ml solvent/g dry gel	Approx. bed volume ml/g dry gel
Dimethylformamide	2.2	4
Water	2.1	4
Methanol	1.9	3.5-4.0
Ethanol	1.8	3.0-3.5
Chloroform*	1.8	3.0-3.5
n-butanol	1.8	3
Dioxane	1.4	2.5-3.0
Tetrahydrofuran	1.4	2.5-3.0
Acetone	0.8	1.5

\*Containing 1% ethanol.

Particle size: 25-100  $\mu$ .

## EXAMPLE OF SPECIFIC APPLICATION



For additional technical information, including the booklets *Sephadex LH-20* and *The Sephadex Solvent-Resistant Columns*, write to:



**PHARMACIA FINE CHEMICALS INC.**  
800 Centennial Avenue  
Piscataway, New Jersey 08854  
Pharmacia (Canada) Ltd., 110 Place Cr  mazie,  
Suite 412, Montreal 11, P. Q.

(Inquiries outside U.S.A. and Canada should be directed to PHARMACIA FINE CHEMICALS, Uppsala, Sweden.)

See us at the Federation Meeting  
Booths 63, 64, 79 and 81

life, we may be working against tremendous odds in trying to change his thinking later on.

At least two major curriculum projects are now operating with this possibility in mind. One, based on the work of Gagn   (2), is organized around a sequence of processes; the other is based on the work of Piaget, and stresses developmental levels. If we can reach the child early enough, this type of approach may be of great use in developing scientific thinking in non-Western cultures.

GUILFORD H. BARTLETT, JR.  
*Science Education-210, Teachers College, Columbia University, New York 10027*

## References

1. J. H. Flavell, *The Developmental Psychology of Jean Piaget* (Van Nostrand, Princeton, N.J., 1963), esp. pp. 15-40. "Piaget Rediscovered: Selected Papers from a Report of the Conference on Cognitive Studies and Curriculum Development, March, 1964," R. E. Ripple and V. N. Rockcastle, Eds. *J. Res. Sci. Teaching* 2 (3), 168 (1964).
2. R. M. Gagn  , "Contributions of Learning to Human Development," address given at the AAAS annual meeting, 30 Dec. 1966, Washington, D.C. Also *Science* 151, 49 (1966) and *Amer. Psychologist* 17, 83 (1962).

## Pesticides: Overstated Dangers

The plague of Rachel Carson's *Silent Spring* continues to infest the minds of scientists, despite the cures offered by more sophisticated investigations.

Wolff, in his review of Kihlman's new book, *The Actions of Chemicals on Dividing Cells* (27 Jan., p. 443), states that geneticists should be warned against the indiscriminate use of radiation, which presents a clear-cut genetic hazard. He writes, "Any arguments about whether or not geneticists should heed this advice have become academic since the publication of Rachel Carson's *Silent Spring*. The lay public is now acutely aware of the hazards attendant on the indiscriminate use of chemical agents."

Many articles, papers, and books have become available to both lay people and scientists which refute the general theme of *Silent Spring* and Carson's interpretation of "indiscriminate." The most notable are the findings of the Ribicoff Committee (1). After 3 years of intensive study of the use of pesticides the committee reached several conclusions on the benefit-risk equation. Senator Ribicoff (Connecticut) summed up the findings with the

statement, "The committee concluded that no significant human health hazard exists today when the great benefits of disease control and food production are weighed against known hazards." Senator Pearson (Kansas) added, "The exhaustive investigations of the Subcommittee conclusively establish that the present use of chemical pesticides do not constitute an environmental health hazard." These conclusions were reached despite Carson's personal testimony to the committee.

A concurrent investigation was conducted by the House Appropriations Subcommittee on Agriculture, chaired by Congressman Jamie L. Whitten (Mississippi). Over 185 outstanding scientists and 23 physicians were interviewed, as well as officials of the American Medical Association and university medical school faculties. Also included were biologists, chemists, entomologists, nutritionists, pharmacologists, plant pathologists, toxicologists, zoologists (including a geneticist), as well as experts in agriculture, conservation, and public health. Whitten's book, *That We May Live*, is a result of the remarkable investigation (2). Those who would use *Silent Spring* as a reference should force themselves to read the opposite conclusions in *That We May Live*. . . .

PHILIP H. MARVIN

2015 Sunnymede Road,  
Manhattan, Kansas 66502

## References

1. *Pesticides and Public Policy*, report of the Subcommittee on Reorganization of the Senate Committee on Government Operations, No. 1379 (Government Printing Office, Washington, D.C., 1966).
2. J. L. Whitten, *That We May Live* (Van Nostrand, Princeton, N.J., 1966).

## Are There Inoffensive Weapons?

I note that the American Anthropological Association condemned four weapons of warfare, including napalm and chemical defoliants, as "offending human nature." I presume they also passed an antithetical resolution recommending a series of weapons, such as battle-axes, swords, guns, artillery, and others as being pleasing to human nature. Why such selectivity in serving the instincts of Cain?

E. C. HUGHES

Standard Oil Company,  
4440 Warrensville Center Road,  
Cleveland, Ohio 44128